IN THE CLAIMS:

A status of all the claims of the present Application is presented below:

1. (Currently Amended) ~~Registration~~ A registration artifact for use in registering fluoroscopic images comprising:

a plurality of radio-opaque fiducials ~~embedded in~~ carried by a radio-transparent support structure in a known geometric relationship; and

a plurality of spatially ~~and optically~~ trackable markers depending from the support structure in a known geometric relationship to the fiducials;

wherein the registration artifact is adapted for being held within a field of view of an imaging device, without attachment to the patient.

2. (Currently Amended) A method for registering fluoroscopic images comprising:

~~capturing with a fluoroscope a first fluoroscopic image of a patient and a registration artifact from a first perspective, the registration artifact including~~[[,]] providing a registration artifact in a first location, wherein the registration artifact includes a plurality of radio-opaque fiducials arranged in a known geometric relationship and a plurality of ~~optically~~ trackable markers disposed in a known geometric relationship to the fiducials;

capturing a first fluoroscopic image of a patient and the registration artifact in the first location;

determining ~~the position~~ positions of the registration artifact fiducials in the first fluoroscopic image with respect to a known coordinate frame by determining ~~the position~~ positions of the ~~optically~~ trackable markers when the registration artifact is in the first location using a tracking system, the tracking system being separate from the patient and the fluoroscope; and

relocating the registration artifact to a second location;

capturing a second fluoroscopic image of the patient and the registration artifact in the second location ~~from a second perspective~~;

determining ~~the position~~ positions of the registration artifact fiducials in the second fluoroscopic image with respect to the known coordinate frame by determining ~~the position~~ positions of the ~~optically~~ trackable markers when the registration artifact is in the second location using the tracking system ~~that senses the reflected infrared radiation~~; and

registering the first and second fluoroscopic images using the positions of the fiducials in each fluoroscopic image and the determined positions, within the known coordinate frame, of the ~~registration artifact~~ trackable markers.

3. (Currently Amended) The registration artifact of claim 1, wherein the ~~optically~~ trackable markers include[[s]] an infrared emitting diode (IRED).

4. (Currently Amended) The registration artifact of claim 1, wherein the ~~optically~~ trackable markers include[[s]] a reflective sphere to reflect infrared radiation.

5. (Cancelled)

6. (Currently Amended) The registration artifact of claim 1, ~~further comprising a radio-transparent body to which the plurality of fiducials and plurality of spatially and optically trackable markers are mounted~~ wherein the trackable markers include optically trackable markers.

7. (Currently Amended) An image guided surgery system comprising:

a registration artifact, including a plurality of radio-opaque fiducials ~~embedded on~~ associated with a radio-transparent body in a known geometric relationship, and a plurality of spatially ~~and optically~~ trackable markers depending from the registration artifact in a known geometric relationship to the fiducials;

~~an optical~~ a tracking system for determining ~~the~~ positions of the ~~plurality of optically~~ trackable markers within a known reference frame, the ~~optical~~ tracking system being separate from the patient and a fluoroscope; and

a computer in communication with the tracking system for receiving information on the positions of the ~~optically~~ trackable markers,

~~the computer adapted for receiving a fluoroscopic image taken of the patient by the fluoroscope with the artifact in the picture and registering the image using the positions of the optically trackable markers when the image is taken, the positions of the radio-opaque fiducials within the fluoroscopic image and the known relationship between the plurality of optically trackable markers and the plurality of radio-opaque fiducials~~

wherein the computer is adapted to register first and second images of a patient and the registration artifact, the registration artifact being disposed in a first location in the first image and a second location in the second image, and

wherein the computer is adapted to compensate for changes in position of the registration artifact from the first location to the second location when registering the first and second images.

8. (Currently Amended) The ~~registration artifact~~ image guided surgery system of claim 7, wherein ~~the optically trackable markers includes an infrared emitting diode (IRED)~~ at least one of the first and second locations of the registration artifact is independent of the patient.

9. (Currently Amended) The ~~registration artifact~~ method of claim [[7]] 2, wherein ~~the optically trackable markers includes a reflective sphere to reflect infrared radiation~~ at least one of the first and second locations of the registration artifact is independent of the patient.

10. (Cancelled)